denoted by "orig." that ranges in frequency from zero up to about f_0, corresponding to the physical bit rate of the data signal. After spreading the data signal using a spread spectrum method, the spectrum denoted by "spread" is obtained. The spread spectrum ranges in frequency zero up to f_s, which is much higher than the frequency f_0. The spread spectrum signal is then modulated on a subcarrier of an RF-frequency, thus producing a signal having a spectrum, denoted in Fig. 1 by "mod", that is centered around the subcarrier frequency f_c. The spectrum of the modulated signal is thus separated from zero frequency. Added to the modulated signal is a control signal of a frequency range containing frequencies lower than the frequencies of the modulated signal. The spectrum of the control signal is denoted in Fig. 1 by "control".

In Latin, only the step illustrated by the spectrum "spread" is used. In Fukasawa, various methods are proposed. For example, in Fukasawa, the spread signal and the synchronization signal have the same frequency as each other, and may be, for example, the chip rate. (See, e.g., Fukasawa, col. 3, lines 36 -38.) The synchronization signal is a second chip code that is synchronized with the first chip code generated by the spreading code generator and thus with the spread signal. (See Fukasawa, col. 2, lines 56- 60.) This means that the spread signal and synchronization signal basically have the same spectrum. Also, it can observed that the synchronization signal cannot carry other information, only a repeated chip code.

In one embodiment of Fukasawa, as described at col. 3, lines 38 - 39, the spread signal "spread" and the synchronization signal "sync" are first combined, producing a signal having the spectrum "comb". This is shown in Fig. 2 of the accompanying drawing page. The combined signal is modulated on an RF-carrier to obtain a spectrum "mod" centered around the radio frequency f_c.

In another embodiment of Fukasawa, as described at col. 3, lines 39 - 46, each of the spread signal and the synchronization is modulated on an intermediate frequency f_i to produce modulated signals having the spectra "mod inter" and "sync inter" centered around the intermediate frequency. This is shown in Fig. 3 of the accompanying drawing page. These two signals of the intermediate frequence are combined giving the spectrum "comb" that is modulated on the RF-carrier of frequency f_c. This finally modulated signal has the spectrum "mod".

According to Applicants' invention, as defined by, e.g., claim 32, the control signal or a second incoming signal can be modulated on a separate subcarrier f_{cc}, as shown in Fig. 4 of the accompanying drawing page. This modulated signal would have a spectrum "modc".

Based on the disclosures of the cited documents, and the accompanying drawing figures, it is apparent that the cited documents cannot be combined to arrive at the invention as claimed. As recited in Applicants' claims, the two incoming signals or digital signals are transmitted within different frequency ranges and therefore the two signals can be easily separated, detected, and retrieved. This is neither taught nor suggested by the cited documents. Accordingly, Applicants request that the obviousness rejection be reconsidered and withdrawn.

Applicants believe the application to be in condition for allowance, and respectfully request notice thereof at an early date. If any issues remain, the Examiner is encouraged to telephone the undersigned at the below-listed number.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By:
Michael J. Crowley
Registration No. 49,009

P.O. Box 1404
Alexandria, Virginia 22313-1404
(919) 941-9240

Date: OCTOBER 16, 2002

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner For Patents, Washington, D.C. 20231, on 10-16-02
Date

J HARRIS
(Typed or printed name of person signing the certificate)

J Harris
(Signature of person signing the certificate)

October 16, 2002
(Date of Signature)

Fig. 1

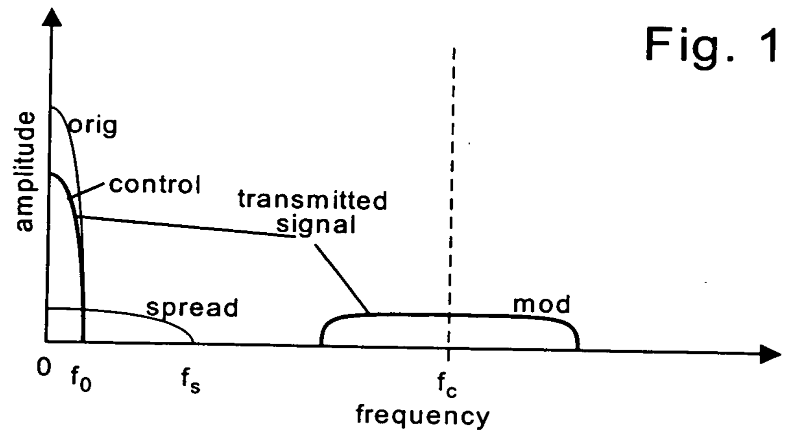

Fig. 2

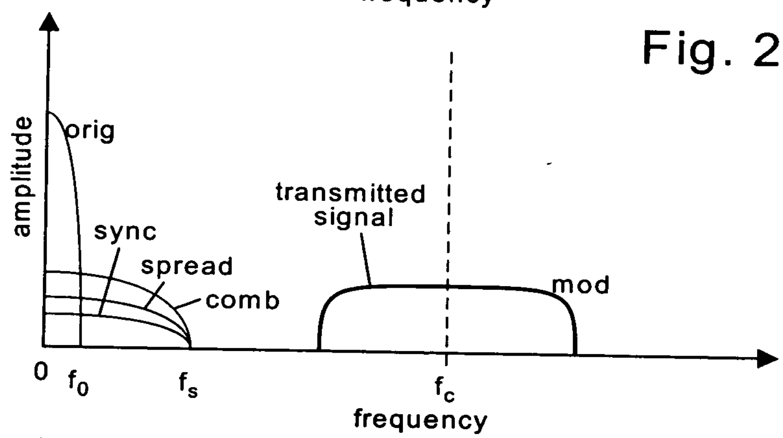

Fig. 3

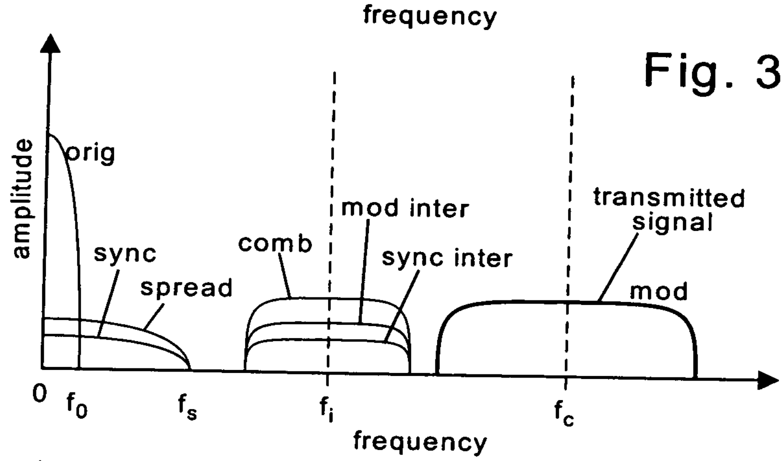

Fig. 4